

### **ABSTRACT OF THE DISCLOSURE**

A method for producing carbon black or other flame aerosols, comprising the following steps: the heat is removed from the flame by dissipation and/or radiation; a thin gas boundary layer is formed; the flow formed by the flame and the gas boundary layer is accelerated or expanded; the obtained aerosol is withdrawn; and the cooling surface is cleaned. The invention further relates to a device for carrying out such a method and a black carbon having a maximum pH value of 6.0, a maximum ignition residue of 0.1 percent, and a maximum 5 $\mu$ m screening refuse of 200 ppm. The inventive black carbon can be used in rubber, plastic, bitumen, concrete, and other construction materials.